



NOAA Teacher at Sea
Candice Autry
Onboard NOAA Ship THOMAS JEFFERSON
August 7 – 18, 2006

NOAA Teacher at Sea: Candice L. Autry
NOAA Ship THOMAS JEFFERSON
Mission: Atlantic Hydrographic Survey
August 15, 2006

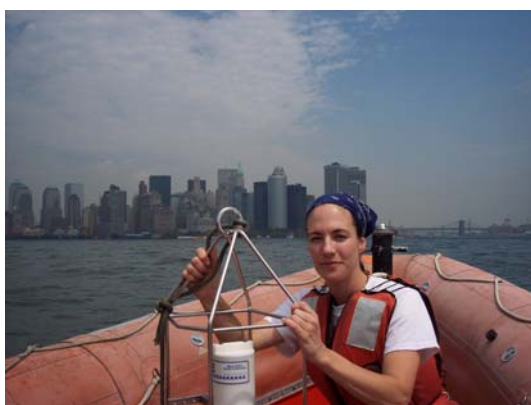
“Experiences on the Fast Rescue Boat”

Science and Technology Log

Today I had the opportunity to go out on the Fast Rescue Boat (FRB) to use the conductivity, temperature, depth (CTD) instrument in various places in the harbor. The CTD looks like a simple white tube; however, the capabilities of the CTD are far from simple! This device provides essential data for scientists. Three of us boarded the small FRB, loaded the CTD, and were off to our locations. The first observation noted is that being on the fast rescue boat is a different boating experience compared to the launches and the THOMAS JEFFERSON. The “fast” part of the description is fitting; the boat moves quickly!



TAS Candice Autry prepares to use the CTD instrument which collects water information related to conductivity, temperature, and depth.



TAS Candice Autry holds the CTD instrument. We collected information from three locations; once in the morning and then again in the afternoon on August 16th, 2006.

The main function of the CTD is to collect data about how the conductivity and temperature of water changes relative to depth. Conductivity and temperature information is important because the concentration of the salt of the seawater can be determined by these two changing variables. The CTD device can also help surveyors determine the speed of sound in the water. The information from the CTD is used in conjunction with multi-beam sonar providing accurate data about the depths of obstructions on the seafloor. The metal frame seen in the picture on the outside of the mechanism is called a rosette. We attached a rope to the rosette of the CTD, turned it on to collect data, held the device in the water for

two minutes for adjustment, then lowered the instrument down to the bottom of the seafloor. Once the CTD hits the bottom of the seafloor, the rope is pulled back up, the

device is put back into the fast rescue boat, turned off, and it is off to the next location to collect data. We deployed the CTD in three different locations in the morning and three different locations in the afternoon. At each place where data collection occurred, the location was recorded by using a global positioning system. Back on the THOMAS JEFFERSON, the information that the CTD collected is downloaded to a computer where specialized software is used to understand the data.

Personal Log

All of the experiences on the THOMAS JEFFERSON have been interesting and fun. Tomorrow I will be helping some of the crew on the deck of the ship. Exposure to saltwater often causes rust to occur; a ship requires constant maintenance! I am also realizing that this adventure will be over soon, with less than two days left. Until tomorrow.....



A closer view of the CTD.



Senior Surveyor Peter Lewit shares the chart used as a guide for the launches to collect data. The red lines in the white area of the chart represent the paths the launches took to collect data using side scan sonar and multi-beam sonar technologies.